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Remarks

The following remarks are responsive to the Examiner's rejection in the Office Action dated May 24, 2006. Applicants wish to thank the Examiner for his helpful comments. With respect to each of the rejections, a detailed response is provided separately below. All claims as presented were, at the time of the invention, commonly owned.

Status of the Application

The pending claims are 15 to 22 and 27. Claims 15 to 22 and 27 stand rejected under 35 U.S.C. § 103.

Rejection under 35 U.S.C. § 103(a): Claims 15 to 18 and 27

Claims 15 to 18 and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,355,505 ("*Maeda*") in combination with U.S. Patent No. 4,381,966 ("*Rasekhi*") and U.S. Patent No. 6,720,203 ("*Carcia*"). Applicants respectfully traverse the Examiner's rejection for a variety of reasons.

Specifically, *Maeda*, is directed to the manufacture of a panel of heat sinks for use in an inorganic semiconductor laser device. The *Maeda* process of making a plurality of heat sinks uses a plurality of substantially parallel photomasks spaced at predetermined intervals to define grooves. Once the panel of heat sinks is made on the mirrored surface of the panel, the panel is cut along the defined grooves into a plurality of heat sinks resulting in elongated segments of heat sinks; and, then the elongated segments are transversely cut. *See, e.g., Maeda* at the Abstract; Figure 12 (a perspective view of a heat sink cut off the panel); Col. 4. lines 56-57; Col. 3, line 65 to Col. 4, line 47; Col. 7, line 51-5; and the description of the *Maeda* Figures.

Only after the *Maeda* heat sinks are cut into a plurality of individual elements (*i.e.*, by cutting along the grooves and then further cutting the resulting segments transversely) does *Maeda* teach the attachment of the mirrored surface of its heat sinks to an *inorganic* laser device chip. *See, e.g., Maeda* Col. 4, lines 48- 52 (chip is "fixed using a brazing filler metal or the like") and Figure 31. It is respectfully submitted that *Maeda* does not teach or suggest the invention of pending independent Claim 15.

The deficiencies of *Maeda* are not cured by the teachings of *Carcia*. Specifically, *Carcia* discloses a flexible organic electronic device with improved resistance to oxygen and moisture degradation. The flexible organic electronic device of *Carcia* includes first and second flexible composite barrier structures, each of which includes at least one polymeric film. *See, e.g., Carcia* Col. 2, lines 12-40. It is respectfully submitted that the attachment process of *Maeda*, using a brazing filler metal or the like, would damage at least one of the polymeric films of the flexible composite barrier structures of *Carcia*, resulting in a device with decreased resistance to oxygen and moisture degradation. Although *Maeda* is silent about any specific brazing fillers or brazing temperatures, most common brazing processes are performed at temperatures in excess of 450°C, and often as high as 1000°C. The glass transition temperatures of the polymeric films of *Carcia* are well below this range, and would not be able to withstand the brazing process. *See, e.g., Carcia* Col. 7, lines 4-27. Additionally, there is no teaching or suggestion of the use or even the need for a heat sink in *Carcia*. Thus, there is no teaching or suggestion to combine the teachings of *Maeda* and *Carcia*. Rather, the knowledge of one skilled in the art would result in *Maeda* teaching away from a combination of that art with the art of *Carcia*.

The deficiencies of *Maeda* and *Cacria* are not cured by the teachings of *Rasekhi*. Specifically, *Rasekhi* is directed to a method of fabricating, from a single piece of copper foil, the recording element structure of a multi-channel magnetic recording head. While use of a photoresist is part of the *Rasekhi* method, there is no teaching or suggestion that is relevant to the process of pending Claim 15. As with Maeda, using the process of *Rasekhi* with the flexible composite barrier structures of *Carcia*, would likely result in a non-functioning or poorly functioning device. There would be no motivation to combine the magnetic recording head of *Rasekhi* with the flexible organic electronic device of *Carcia* or the heat sink of *Maeda*.

Thus, for the reasons stated above, neither *Maeda, Rasekhi* nor *Carcia,* when read alone or together, teach or suggest the subject matter of pending Claim 15 and dependent Claims 16 to 18 and 27. Applicants respectfully request the Examiner to withdraw the above referenced rejection.

Rejection under 35 U.S.C. § 103(a): Claim 19

Claim 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Maeda* in combination with *Rasekhi* and *Carcia* and in further view of U.S. Patent No. 6,803,257 ("*Lee*"). This rejection is also respectfully traversed. The distinguishing remarks provided above are equally applicable to Claim 19, which depends from Claim 18 and ultimately depends from Claim 15. In addition, there is no teaching or suggestion to combine *Maeda, Rasekhi, Carcia* and *Lee*, and even if combined, *Lee* does not teach or suggest resolution of any of the deficiencies discussed above.

In particular, the *Lee* teaching relates to a method of manufacturing a printed circuit board having an element to dissipate heat (a heat sink panel) in a manner separately from the printed circuit board. As explained in more detail below, the *Lee* method of manufacturing its heat sink panel is unrelated to the method as claimed in pending Claim 19.

First, *Lee* does not teach or suggest anything relating to a method of an electronic device or laser (organic or inorganic). Second, the *Lee* method is a method of adding the heat sink panel to the printed circuit board by attaching it to the lower surface of the printed circuit board. *See, e.g., Lee* at Col. 7, lines 7-11. Third, *Lee* teaches fabrication of its heat sink panel by making a pattern in the oxide insulating layer on the unpatterned alloy panel. *See, e.g., Lee* Figures 2a-2h. In contrast to *Lee*, the heat sink of Claim 19 is created by patterning the insulating layer prior to plating the spaced-apart members onto the electrical conductive layer (as set forth in Claim 18). Even reading the references in the most favorable light to support the above rejection, the process of pending Claim 19 is the opposite of that which would have been taught by *Lee*. Consequently, to the extent *Lee* teaches or suggests anything related to the combined teachings of *Maeda, Rasekhi* and *Carcia*, it teaches away from the process of pending Claim 19, as discussed above.

Applicants submit that the nothing in *Maeda, Rasekhi, Carcia* or *Lee*, when read alone or in combination, teaches or suggests any aspect of the process of pending Claim 19, and respectfully request that this rejection be withdrawn.

Rejection of Claims 20 to 22

There is no explicit rejection of Claims 20 to 22 in the Office Action. Applicants submit that the previous rejection of these claims has been traversed and request that this rejection be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the above referenced application is in condition for allowance. A Notice of Allowance is earnestly requested for the pending claims.

Applicants believe that no fee is required to accompany submission of this paper. If a fee, not accounted for herein, is required, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

A Notice of Appeal is being submitted concurrently with this paper

Should the Examiner have any questions about the content of this paper or the status of the application, the Examiner is invited to call the undersigned at the telephone number listed below.

Respectfully submitted,

JLamming

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